DOCUMENT RESUME

ED 086 787 95 CE 000 726

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TITLE World of Work. Exemplary Project in Vocational Education. Final Report.
INSTITUTION Contoocook Valley Regional School District, Peterborough, N.H.
SPONS AGENCY Bureau of Adult, Vocational, and Technical Education (DHEW/OE), Washington, D.C.
REPORT NO 0-361-0052
PUB DATE Jun 73
GRANT OEG-0-70-5191(361)
NOTE 52p.; Page 50 is missing; For related documents see CE 000 725 and CE 001 004

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Career Education; Career Planning; *Curriculum Development; *Elementary School Curriculum; Industrial Education; Middle Schools; *Program Descriptions; *Secondary Education; Vocational Education
IDENTIFIERS *World of Work

ABSTRACT

Project World of Work took place in Contoocook Valley School District, New Hampshire, over a three-year period, 1970-1973, with the objective of increasing the student's foundation of information, activities, and observations which would help them understand the American world of work. It was also hoped the project would assist them in securing the necessary background for their future occupational choices. The elementary grades program was directed toward showing the inter-dependence of people in their occupational roles. The middle school and early high school level of the program exposed the students to an experiential study of industry based on the Industriology Concept developed at the University of Wisconsin. It was designed to associate the student's interests and aptitudes with selected people or product oriented occupations, noting skills, knowledge, and attitudes necessary for the student to make his occupational choice. The final high school years were directed toward skill training for job entry through a work plan. The project was implemented at the various levels with an emphasis on the middle school and early high school levels. Evaluation is an on-going process. (AG)

ED 086787

FINAL REPORT

Project No. 0-361-0052

Grant No. OEG-0-70-5191 (361)

WORLD OF WORK

Exemplary Project in Vocational Education

Conducted Under

Part D of Public Law 90-576

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Route 202 North

Peterborough, New Hampshire 03458

June 1973

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PART I - ABSTRACT

A. TIME PERIOD:

The duration of Project World of Work as designated in the original proposal was designated as from July 1, 1970 to June 30, 1973. While the project has officially functioned within this 36 month framework, there was in fact a delay in the first quarter of the project in getting the contract properly negotiated.

B. OVERVIEW OF BASIC PROJECT INTENTS AND PURPOSES:

Prior to July 1, 1970 it was determined that in the Contoocook Valley School District, like many other school districts, there was no real sequential program for work orientation that was relevant and meaningful for students. Similarly, no teachers at that time were properly trained either to produce such programs or to teach them. By relevant and meaningful, we mean such programs that provide involvement for pupils, programs that enable them to participate in activities, to carry out projects that have some meaning both for the immediate moment and for the time to come. Such programs would be representative of basic economic principals and would have meaning far beyond immediate, present needs. They would require the teacher to be able to involve students in both the planning and the execution of the activities. They would be economically oriented, as the World of Work is essentially a matter of economics.

Work as it relates to man and his culture is based upon the economic premise that human wants are infinite and human and natural resources are limited. Society creates the utility of goods and services to fill human wants.

Those involved in the development of the original proposal for the project did so because they felt that orientation to the World of Work is an essential and vital phase of the education of all students and should be a part of all progressive and complete educational programs. It is essential that today's young people understand the American world of work as well as securing the necessary background for making appropriate occupational choices for their future orientation to life.

In a rapidly changing society the understanding of the inter-play

between social, economic and political influences upon all citizens lives must be shown to students so they may intelligently decide their occupational role. This suggests that it is then necessary to expand and widen the students foundation of information, activities and observations through educational experiences associated with many world of work opportunities.

The basic intent of this program was to implement a comprehensive approach in meeting these needs in grades 1 - 12 based on a continuum concept. From the first grade through the twelfth, the program is designed to provide students with exposure to, exploration of, and preparation for the world of work. This is done by replacing the traditional approaches to practical and vocational education with a more integrated program encompassing the major vocational and acedemic fields, placing the emphasis on the area which best fills the individual student's needs.

In the elementary grades, students are exposed to a combination of tool activities, role playing, field trips, simulation games, plus verbal classroom activities. The goal of this program element is for these students to become aware of the world of work, develop positive attitudes toward work and play, and to come to know the satisfactions of starting and finishing a piece of work. It is important to underscore the fact that this program element does not seek to develop work skills or career choice. Rather, it is designed to begin to show the inter-dependence of people in their occupational roles: the need for, and the dignity of all levels of productive work and the relationship between them.

At the Middle School and early high school level, an expanded INDUSTRIOLOGY concept is used as the basis of "people, places, and things," oriented activities. This concept will be explored more fully in the next section, but for now let it be said that the Industriology approach offers students an alternative and supplementary approach to Industrial Arts through exposing them to an experiential study of industry. Instruction is integrated and activities emphasized the function, service, and consumption of products as well as the human elements of occupational and personal life. This portion of the program is also designed to associate the student's interests and apptitudes with selected people oriented occupations or product oriented occupations — introducing and experiencing special skills, knowledge and

attitudes needed to help the student make his occupational choice. Vocational guidance and counseling is interwoven with these experiences since the next step is for him to choose his occupational goals.

Students in their latter high school years are directed toward skill training for job entry. This has been developed through performance standards allowing the individual to work at his ability level acquiring skills and knowledge needed to enter his chosen vocational area. Since a comprehensive high school does not have the resources to offer vocational skills training in all student interest areas, a cooperative work program associated with local business, industry and social agencies has been developed to serve the student's needs in areas not included in school vocational offerings. Here again, during the latter years, counseling and guidance follow the student's progress carefully and the student is given considerable assistance in making viable decisions relating to his future.

C. IMPLEMENTATION:

During the three operational years of the project the basic intense and purposes around which the original proposal was developed have seen implementation. In each of the elementary schools in the district, a complete tool rack was constructed, teachers trained in its use and support given for the development of activities that would allow elementary students to come to know the satisfactions of starting and finishing a piece of work. In doing so there is evidence that students have developed a more positive attitude toward work and play. There awareness of the world of work has been greatly enhanced by the use of well organized and well planned field trips. In the last year alone 34 such field trips were taken for the purpose of introducing students to a variety of occupations and careers. These field trips along with the availability of follow-up materials provided by the project and the ingenuity and creativeness of teachers have provided students with an awareness and interest in the world of work that would not otherwise have been available to them. They have had the opportunity to witness the interdependence of people in their occupational roles and to come to understand that there is dignity in all levels of productive work.

The process for implementing the program at the Middle School

and early High School level was achieved through redesigning and refinement of the Industriology Concept developed at the University of Wisconsin. Most Industrial Arts programs are geared toward skill development through individual projects and the manufacturing industries are emphasized. It is limited so far as helping students understand what industry is, how it functions and what their relationship to it is. It is not intended to replace Industrial Arts. It is intended to supplement, revise and expand upon the Industrial Arts Program. It is a broader, comprehensive study of the four types of industry - raw materials, manufacturing, service and distribution. It includes the six activities of industry - development and design, finance and office service, manufacturing or processing, marketing, industrial relations and purchasing. It puts industry in context by reviewing the history and development of industry and looks at the implications of industrial growth and the problem it faces as well as the problems it imposes for society. The approach used at ConVal usually involves the forming of student operated companies which offers both practical and meaningful experience of the six activities of industries. The companies can be organized in any one of the four types of industries and since the materials are now being developed in several areas it is possible for a student to be involved in several company arrangements.

This type of learning experience leads students very logically and smoothly into the last phase of the project designed to help the student make specific occupational decisions and to provide more sophisticated skills training so that he may achieve the occupational competence necessary in entering the field of his choice. To achieve this an expanding work study - work experience program has been implemented by a cooperative education supervisor hired by the project. Along with the more sophisticated courses at the 11th and 12th grade level and the cooperative education opportunities available to him, the student is also provided increased guidance and counseling by a Vocational Guidance Counselor also provided by the project. In addition, all vocational educational educational students are involved in a course entitled "Commonalities". This course is designed to provide students with in-class information and an opportunity for sharing ideas and viewpoints relating to those issues, problems, subjects and topics common to all people involved in the world of work.

D. RESULTS AND ACCOMPLISHMENTS:

Considering the fact that the Project, during its three operational years, has had a stormy administrative history, the results for the most part have been positive in that the seeds have been planted at each level for continued growth of the project components. Key district teachers and administrators at the elementary, middle and high school levels are "sold" on the approaches initiated by the project. At the elementary level it would appear that the major accomplishment has been in the area of developing an awareness and interest on the part of key administrators and teachers of the importance and value of approaching the instructional process from a point of view and attitude that relates what the student is learning in his classroom situation directly with his needs and aspirations, that he begins to make decisions relating to his future and how he will lead his life. In other words, the value of the program at the elementary level is not to be found in "things" but rather in an attitude within the teaching and administrative staff. At the middle school level and early high school level the project staff has been successful in coordinating the efforts of the Industrial Arts and the Vocational Educational staff in developing extensive learning units consistent with the Industriology approach. While there is much left to be done there are several excellent models (see Appendices I) and even more importantly, since these units were developed cooperatively between the project staff and the teachers involved, the process is now understood for the development for additional units by the teaching staff.

At the 11th and 12th grade level, the project was responsible for the hiring of a cooperative education supervisor and a vocational guidance counselor and these positions will be continued at local funding. In addition, involvement by students in the work study - work experience program has greatly increased each year, thorough testing of students at the middle and high school level with regard to occupational interest, aptitude, etc., has increased and student enrollment in courses offering more sophisticated skills development has increased.

E. EVALUATION PROCESS:

Evaluation in any exemplary or innovative project is an essential element. Project World of Work is no exception. It is difficult if not impossible to fully understand our strengths and weaknesses

by our own analysis alone. It is essential that a substantial amount of sharing and feedback take place so that we can assess where we are and plan effectively for implementing the change process. In the course of the three years there were no less than five external evaluations. In addition, quarterly reports were prepared for USOE for the purpose of monitoring the project at the federal level and which were no doubt used for the purposes of making decisions relating to the project. Though undocumented, the project staff continually evaluated the status of the project and made strong effort to use the shared information in moving the project forward successfully.

F. RECOMMENDATIONS AND CONCLUSIONS:

NOTE: This section contains recommendations to those audiences interested in beginning a program in career education that is similar in nature to the program implemented in the Contoocook Valley School District- Peterborough, New Hampshire 1970-1973. Recommendations and conclusions relating to the continuation of Project World of Work in the district can be found in section E - Part II - Extended Report.

1. Needs Assessment -

Prior to the development of a proposal it is recommended that a thorough and documented needs assessment be conducted for the development of a firm rationale for instituting the proposal. Too often proposals are developed upon assumed needs or in meeting the vested interests of a few key personnel.

2. Proposal Development -

The proposal should reflect with accuracy the documented learner-oriented needs of children and all avenues of necessary input should be investigated. If assistance is needed, most State Departments of Education can offer ample technical assistance in this area. The proposal should clearly and specifically define what is to be accomplished during the project period. However, flexibility should be maintained so that as the process evolves opperational objectives can be altered in response to new directions and needs.

3. Objectives -

As objectives are developed they should be consistant with the basic goals and should be specific and measurable. It is recommended that there should be a separation of management (administrative) objectives -- that is those things necessary for the conduct of the project AND Program Objectives -- that is those elements of the project that specifically relate to the activities conducted that will produce direct "payoff" for the target groups.

4. Time Sequence Charts -

Objectives should be placed on a time flow chart encompassing the project period to visually show the logical sequence in the change process from implementation to conclusion.

5. Staff -

In choosing a staff, attention should be given to properly assessing just what needs to be done in order for the objectives to be met. Staff members should be selected who have a history of success in the conduct of externally funded programs. They should understand the process of change and be in agreement with the intent and purposes expressed in the basic proposal. Very often otherwise outstanding credentials in the area of school administration do not insure, in and of themselves, the type of person who would make a successful implementer of innovationa and change.

6. Organization -

An organization chart should be developed showing the lines of communication and responsibility of each staff member and should show the specific lines of authority and responsibility.

7. Fiscal Procedures -

It should be clearly understood by all parties involved what the specific procedures will be for negotiation and reporting to external agencies (State Departments of Education and U.S.O.E.). It should also be understood by all involved what internal fiscal procedures are to be used in facilitating and expediting project management and activities with efficiency. A proper period of planning and orientation should take place from the beginning for this purpose.

8. Inservice Training -

Recognizing the project's change process, it would be expected that

frequent and appropriate inservice meetings would be conducted for target groups based upon both the philosophical intents and rationale for the project and developing the skills and knowledge among those implementing the program that will allow them to do their jobs.

9. Summer Workshops -

Do not overlook the summer months as perhaps the most appropriate time for the development of materials and strategies.

10. Using Video Tape Equipment -

There are several viable models for the implementation of effective use of video tapes. Special care should be addressed to proper planning and orientation of those implementing the program and careful control of the purchase and use of such equipment if this component is to be successful.

11. Dissemination -

Contrary to the Squaw Valley Conference held in 1970, we recommend that attention be directed at appropriate dissemination from the beginning. Although care should be taken and disgresstion used in being sure that you do not promise things through your dissemination that you cannot deliver, there should be a major thrust at the beginning to make the target audience highly aware and to solicit interest in the basic intents and purposes of the project. An appropriate strategy consistent with the change process should be evidenced throughout the project period.

12. Inventory -

A standard and well planned inventory procedure should be instituted from the beginning. As part of the planning, it should be projected to whom materials and equipment will go upon termination and how it is anticipated they will be used so that the inventory system can be made as consistent as possible with the procedure used by the group or agency who will receive the materials and equipment upon termination. We cannot stress to highly the need for "consistency" in this matter and for proper and thorough documentation.

13. Facilities -

Space requirements for those operating similar projects are destined to be greater than regular school administrators. Materials, equipment, reports and other similar items quickly accumulate in active programs and this is not often anticipated at the commencement of a project.

PART II - EXTENDED REPORT

A. THE PROBLEM AREA ADDRESSED BY THE PROJECT:

The Contoocook Valley School District has a positive history of continually assessing the needs of its students and subsequently providing programs of an innovative and exemplary nature intended to provide relevant and imaginative education for the youth of the district. This process is in part evidenced by the fact that in 1969 the district began to respond to the growing need for revising and expanding its program in vocational and industrial arts education.

It was realized that while the curriculum contained a liberal assortment of vocational and industrial arts courses, no real sequential programs of work orientation existed which were relevant and meaningful for students. Associated with this problem was that no teachers had been thoroughly trained either to produce such sequential programs or to teach them. By relevant and meaningful we mean such programs that provide involvement for pupils, programs that enable them to participate in activities, to carry out projects that have some meaning both for the immediate moment and for the time to come. Programs were needed that would be representative of basic economic principals and that would have meaning far beyond the immediate student situation. Such programs would require the teacher to be able to involve students in both the planning and the execution of such activities. The activities themselves would be economically oriented as the World of Work is essentially a matter of economics.

The philosophical rationale for this attitude was based upon the idea that work as it relates to man and his culture is based upon the economic premise that human ones are infinite and human and natural resources are limited. Society creates the utility of goods and services to fill human wants.

It was recognized by the district, and later greatly reenforced by the work of Dr. Sidney Marlin that the orientation to the world of work is an essential and vital phase of the education of all students and should be a part of all progressive and complete educational programs. Both boys and girls need a complete understanding of the American world of work as well as a meaningful background in the occupational choices open to them

in the world of work.

It was felt in the district that in a rapidly changing society the understanding of interplay between social - economic - political influences on all citizens lives must be shown to students so they may intelligently decide their occupational role. There was a need therefore, to widen the student's foundation of information, activities and observations through educational experiences associated with many world of work opportunities.

To address these problems forthrightly it was decided that a proposal should be developed that would offer a supportative program designed to aid the school district in providing students with the knowledge and skills needed to know himself so that he would be able to make the wisest choice from a wide range of occupations. In addition the program would be written in such a way as to make available to students the kinds of educational opportunities needed to implement this choice.

At the elementary level it was determined that the key word should be "ORIENTATION TO THE WORLD OF WORK". In grades 1 - 6 it was planned that the program would ultimately produce students who would acquire a positive attitude towards work, school, and have an increased knowledge of themselves in relation to work. It was recognized that in-service training for elementary school teachers would be necessary in creating an awareness and interest on the part of elementary teachers in pursuing a committment to a program of career orientation.

It was also recognized that elementary teachers in the district should not be asked to do this unless appropriate resources were placed in their hands to assist them. It was therefore planned that necessary materials, equipment, specialized occupationally oriented teaching units, etc. would be placed in the hands of elementary teachers.

In the junior high school and early high school levels it was determined that the students were not receiving the kinds of educational experience in practical arts courses that could help them make the decision to involve themselves in vocational skills training in high school. Students were entering academic programs because of a lack of understanding of what vocational training is. In addressing this problem, it was recognized that the

proposal should contain provision whereby students could be directed into skills training in high school that would offer job entry skills. More specifically, the key elements of the 7th and 8th grade portion of the program were "EXPLORATION AND SELF EVALUATION". At this level it was hoped that the proposal would lead students to an understanding of the occupational clusters: that they would begin to realize their own desires and abilities and make tentative choices of occupational clusters for further exploration.

It was at this level that the major thrust of the program was directed. Research has shown that the most realistic career choices of people are made by those with the greatest exposure to valid information about work and the greatest opportunity for self evaluation. In 1966, Wisconsin State University - Platteville, developed a programed "INDUSTRIOLOGY". This is defined as a study of industry. It defines industry as being five types: raw materials, manufacturing, distribution and services to products, services to people. It further determines key activities to be product development, purchasing, manufacturing and processing, industrial relations, internal finance and office services, marketing.

The development of the ConVal World of Work program in the junior high and early high school level made extensive use of these studies and materials. Although industriology is an excellent lab oriented activity approach to the study of occupational opportunities, its primary application is to industry and business activities associated with products producing industries. There was a need therefore to make use of other studies concerning service occupations associated with humans such as teaching, nursing, etc.

The World of Work Program made use of selected research studies in occupational information in guidance appearing in the Eric Clearinghouse documents, "intensive high school occupational guidance approaches for initial work and technical placement" and "orientation approaches to increase student awareness of occupational options". It is noted that in the Eric Clearinghouse "review and synthesis of research in industrial arts education" that in addition to industriology there are are other innovations in industrial arts education that could be of significant value in the development of similar "world of work" programs. While industriology was the

prime thrust, it is important to emphasize that the program not only addressed itself to developing a bridge between industrial arts and T & I and its coordination, but also demonstrated similar approaches to other occupations for girls as well as boys at all levels of ability.

The emphasis in grades in 9 and 10 has been upon "EXPLORATION AND PREPARATION". In these grades it was the intent of the project to help students make choices of a more specific nature from the occupational clusters and to gain more sophisticated skills and knowledge in that area. It was hoped at this level students could associate their interest and aptitudes with selected people - oriented occupations, or product - oriented occupations and develop special skills, knowledge and attitudes needed to help the student make his occupational choice. Interwoven into these experiences was the careful process of guidance and counseling by a project vocational guidance counselor.

At the 11th and 12th grade level the thrust was toward "JOB PREPARATION AND A JOB ENTRY". To help implement this portion of the project a cooperative education supervisor was hired and in essence it was his job to see that students were moved along toward proper preparation and where possible satisfactory entry into the world of work. In essence the progject at this level addressed itself to helping the student work to his ability level acquiring skills and knowledge needed to enter the cluster of occupations in his chosen vocations. It should be here recognized that a comprehensive high school does not have the resources to offer vocational skills training in all student interest areas developed in earlier experience, therefore, a thorough cooperative work program associated with local business, industry and social agencies was developed to serve the student's needs in areas not included in school vocational offerings. Also at this level guidance and counseling continues to be a critical factor through following closely the student's progress in the skills training program and fully understanding the performance of the individual student. The vocational guidance counselor at this level, helps the student seek employment or further educational training which serves the student's increased interest and abilities.

In conclusion, it should be noted that in the fall of 1968 the Contoocook Valley School District, school administration presented the Contoocook Valley School Board, a plan for improvement of the practical education program in the school system. Even

earlier than 1968 acceptance of this plan, the Board approved a 6 area vocational program to be included in the new ConVal High School. This is to say that the district had been in the process of assesing its status and planning programs for improvement of the educational opportunities for young people in the district.

Subsequently, the original proposal for the Project World of Work was submitted as support in meeting these problems as constructed and including the addendum for involvement of elementary students. The development of the world of work concept for the Contoocook Valley School District involved 4 phases: 1) orientation of elementary students toward the world of work, 2) world of work opportunities in pre-high school, 3) exploring occupational interests for ability and aptitude in the early high school years and 4) developing skills, knowledge and attitudes needed for a chosen occupational field and aiding students in obtaining employment. Goals and objectives were then spelled out in addressing the four basic areas of concern.

B. OBJECTIVES

Phase I Objectives

1. To provide students with information, activities, and observations of present day American World of Work opportunities in selected people and product oriented services.

2. To provide students with understanding of skills, knowledge and attitudes necessary to perform effectively selected people and product oriented services.

3. To meaningfully relate other educational studies to the eventual choice of occupations through activities of many occupational fields identifying and using academic and vocational skills.

4. To provide students with understandings of social-economic and political problems that affect the American worker so as to enroll him to perceive his effect as an individual in society and the importance of his occupational goals.

Phase II Objectives

1. Provide experiences in selected locally oriented occupational needs so the student may determine his aptitude as well as interest in these occupations. so he may choose an occupational field suited to him as an individual.

2. Provide introductory skills and knowledge needed to enter the job entry program in later high school.

Phase III Objectives

1. To provide skills, knowledge and attitude necessary for the student to succeed in employment.

2. To aid students seeking employment opportunities in the occupational area that he has been trained.

EXPANSION OF MAJOR OBJECTIVES

Phase I Objectives

Expansion of Objective	Student Behaviors	Method of Evaluation
To develop techniques of observation and reporting, particularly as they apply to job analysis.	Student can analyze a job, determining educational and experience requirements as well as local and national job trends.	Student completes an analysis sheet and obtains answers to all items on the sheet which apply to the job under study.
To develop ability to use people as resources in seeking answers to questions or solutions to problems.	Pupil prepares questions for an interview and submits them to instructor.	In individual conference student can justify each question; he can also justify omissions posed by the instructor.
	Student holds interview using a tape recorder.	In seminar, other students and instructor give a critique. Student must score a satisfactory rating on a rating sheet previously created by the class.
Te enable students to identify the nature and degree of skills required for performing certain tasks.	Students develop a classification system for evaluating kinds and levels of skills.	Student views a film of a given skill and classifies that skill using system developed earlier. He can use the system with at least 80% accuracy.
To develop skills of investigating job characteristics and trends.	Student investigates in depth the career opportunities in a given occupation, citing at least one interview with an employer and one with an employee. He uses standard reference works for occupational information, including	Report meets specifications prepared by vocational instructor or industriology teacher as to form and content.

Expansion of Objective	Student Behaviors	Method of Evaluation
	local newspapers and magazines.	
	Students develop jointly an analysis sheet for assessing nature of an occupation. They visit business and industry using the sheet.	In seminar, students discuss effectiveness of the sheet and refine it as needed, until it effectively provides the information they need.
	Students select several occupations and list the functions performed by one in that occupation. They develop a scale for indicating the level of training necessary for performing that function.	Students apply scale to ten jobs. Scale is sufficiently accurate when three students rate the same ten occupations with no more than 10% disagreement.
	Students interview a consultant in class, with all students involved in the planning and asking of questions.	During the interview, each student secures the information which the group assigned him to obtain.
To develop ability to write directions.	Student writes set of directions concerning operation of a simple machine.	Another student can operate the machine using these directions.
	Student writes procedure for laying out utensils and ingredients for the preparation of a recipe.	Another student executes the directions without error.

Expansion of Objective	Student Behaviors	Method of Evaluation
To develop ability to plan cooperatively an activity involving the spending of money.	Students plan jointly a field trip, submitting a written report of steps to be taken, including projected costs.	The report must be sufficiently accurate to permit the trip to be taken.
	Students plan the performance of a service. The plan includes projected expenditure of time, rates for the service, and resulting balance.	Accuracy of plan is measured by percentage of accuracy of resulting balance when the service is actually performed.
To develop reading speed in vocational content.	Student improves reading speed in vocational content.	Students take a reading speed and comprehension test to establish a base line. Student improves this speed by 50%.
To develop level of comprehension in vocational subject matter.	Student improves reading level in vocational content.	On a reading comprehension test in vocational content student raises his performance one grade level. A 10% gain in speed without loss of comprehension will be considered a gain of one grade level in comprehension.
To develop student's knowledge of his interests.	Student chooses among people-oriented and product-oriented services.	After completion of extensive survey of occupations, student rates them as "Like" or "dislike".
	Student completes interest inventory.	Kuder Preferential

Expansion of Objective	Student Behaviors	Method of Evaluation
	Student prepares progress chart in which he shows himself how he has narrowed his choice of vocation.	Interview/conference with counselor. Conference results recorded in anecdotal record.
	Student relates his academic capabilities to his vocational choice.	Vocational counselor provides student with test data. Student writes for anecdotal record a short paper in which he specifically indicates how his own test results relate to the broad range of occupations in which he is interested.
	Student participates in game simulation.	Student indicates in simulation follow-up how his own personality affected the decisions he made in the game.
To develop an understanding of the supply/demand factor.	Students select a product or service for which there is a demand, and produce the item or perform the service for profit.	Students present their findings on their investigation concerning a product or service in a local need.
	Students engage in a game simulation involving the supply/demand factor. (MANCHESTER, By ABT Associates, Cambridge, Massachusetts).	Simulation follow-up analyzes reasons for game results. Each student writes analysis of factors involved.
To develop understanding of interdependence of workers in same industry.	Students form corporation in which each has a job to perform.	Student prepares short description of how his job affects one or more of the others, and how his job depends upon another worker.

Expansion of Objective	Student Behaviors	Method of Evaluation
To involve students in labor negotiations.	Students contract for a portion of the service or for a raw material which they cannot supply themselves.	Students analyze "bids" and select the one in best interest of the corporation. They write a bid analysis, giving reasons for their choice.
	Students provide alternatives for illnesses or other work absence.	Alternatives provided keep the work of the corporation in progress.
To develop understanding of job entry skills and on-the-job training.	Students prepare training programs for jobs to be performed.	List of skills to be performed includes all skills necessary to carry out the project and is divided according to those that must be taught/learned before the project can begin and those that can be learned while project is in progress.

Phase II Objectives

The program in Phase II moves from the study of all industry to the study of specific local industry, involving services to people and services to products. Through a combination of actual experiences provided in the classroom and multi-media presentations concerning local occupations, students will have further opportunity to narrow their occupational choices, and from the filmed, taped, photographed experiences, students will select those areas which they would like to investigate further and will arrange on-the-job inspection of the conditions affecting workers in that occupation. The prime objective in Phase II is narrowing of the field to where a student may select a cluster of occupations for which he would like to train. In some cases this may mean that the student will elect to enter pre-vocational programs, preparing him to go on to further training upon the completion of high school; in other cases, students may elect to obtain job-entry skills, and thus enroll in the Vocational Skills Program. In this respect, he selects one of the areas provided in the Contoocook Valley School District, or he selects an area from the Milford New Hampshire Vocational Educational Program, or he obtains through the project, job-entry training at the site of the local industry.

Expansion of Objective	Student Behaviors	Method of Evaluation
To involve students in the performance of certain skills, in order to enable them to assess their level of aptitude and interest in these skills.	Student will perform introductory level skills in a broad field, as electricity.	Student is able to perform each of skills taught. (Failure to achieve at acceptable level helps student to make corrective choices, as will success.)
To impart knowledge of the skills and aptitudes required for enrollment in the Vocational Skills Program.	Student will work with materials and conditions simulating job conditions of the work being explored and will elect to pursue or not to pursue this line further.	Student will make a choice of the vocational or prevocational area he wishes to pursue.

Phase III Objectives

This is the "payoff" phase. Here students are actively engaged in learning the skills necessary for job-entry in a cluster of occupations. The objective is to teach skills; the measurement is simple: he can or cannot perform those skills. In each of the job clusters, there is a succession of skills in a sequential arrangement so that a student may stay on the track to develop a very high level of competence or he may get off the track at any point, knowing what occupations he is qualified to fill at that point in his training.

To aid students in obtaining employment in his occupational choice, the Vocational Guidance Department will prepare a resume with precise levels of skill accomplishment which will be checked by the instructors in his courses. Local employers and employment agencies will be notified that we have graduates possessing these specific skills and that we will furnish names, addresses, and other information upon request; in addition we will schedule interviews for the graduates whenever desirable. The Vocational Guidance Counselor will assist each student to develop a brochure in which he presents himself favorably to employers.

When have the objectives been met? When the student enters the job for which he has trained. Follow-up studies will help us to re-evaluate and to re-design as needed. But that is the normal course of action, and is not a portion of this project per se.

Expansion of Objective	Student Behavior	Method of Evaluation
To provide skills, knowledge and attitude necessary for the student to succeed in employment.	Student performs skills for which he has trained.	Instructor observes student in performance of skills and rates him on a rating scale. Ongoing evaluation, assisting student to refine and redesign his approaches to seeking employment.

ADDENDUM TO PROPOSAL NUMBER 0-361-0052

1. Broad occupational orientation provisions for elementary school children will be accomplished by the following methods:

   A. Vocational teachers and the vocational guidance department will assemble and present to all elementary schools in ConVal a program describing the ConVal vocational education program. In addition, the project director will develop and present an informative program describing selected occupations in industry, business, and service field of the ConVal community.

   B. The project director with the aid of vocational staff members will compose a bibliography of visual materials that elementary teachers may use to describe occupations within the world of work. A meeting will be planned with elementary teachers to explain how this material might be used.

   C. Student and teachers in various elementary school classes will participate in guided tours of the ConVal Regional High School vocational program and Junior High School vocational program, to enable students to envision the total concept of the w.O.w. program.

   D. The project director with the help of vocational staff members will aid in developing specialized occupationally oriented teaching units for elementary students as requested by the elementary teacher. At present the school district employs a full time elementary guidance person, therefore, yearly programs for orientation to the world of work shall be planned with the elementary guidance person.

   E. An interest test will be administered to upper elementary students and used to aid in determining future vocational objectives.

2. Provision for students not previously enrolled in vocational programs to receive specific training in job entry skills just prior to the time they leave school will be accomplished in the following manner:

   A. Since ConVal Regional High School has a flexible scheduling

system, students will have up to 35% of "in-school time" unstructed. ConVal will offer to students mini-courses in a series of subjects, many of which will be vocational in nature. Courses such as surveying, retailing, reproductive processes and electronic communications will be offered during the afore mentioned unstructured "in-school time". Mini-courses will meet one or two 20 minute modules a week for an 18 week period.

B. Local industry consists of many light bench work occupations. Local business and industrial leaders have been asked to plan and coordinate intensive training of students interested in immediate employment following graduation. Length of program will be determined by the type of skill to be learned. These occupational training programs may be as little as two weeks and a maximum of one year.

The following procedure is necessary to accomplish this objective:

1. A committee of industrial and school personnel will select the group of occupations feasible to instruct within the resource centers of vocational laboratories of the ConVal High School.

2. Industrial representatives will provide instruction and performance criteria for each occupation to be included in training.

3. Through vocational guidance, any interested student may choose to attempt the training program on his unstructured school time.

4. Those students performing to the industries minimum standard shall be listed by the industry as having attained the job entry standard and therefore be shown employment preference in any job application concerning these skills following completion of the high school program.

5. There is need to study the possibility of establishing service trade skills centers such as Shell Oil Company's Intensified Tune-Up and Diagnosis. Arrangement will be made with local automotive service agencies.

Through the advice and cooperation of the Vocational Advisory Committee other skill Centers not now identifiable may be possible.

Note: In addition it should be noted that in the second and third operational year "implementation goals and objectives" were constructed for management and program elements of the project. They are basically constructed with the objectives in the original proposal and were established to further refine the operation of the project and to respond to situational changes within the district and the project. These objectives are available in Volume III.

C. STRATEGIES/PROCEDURES - AND THEIR IMPLEMENTATION:

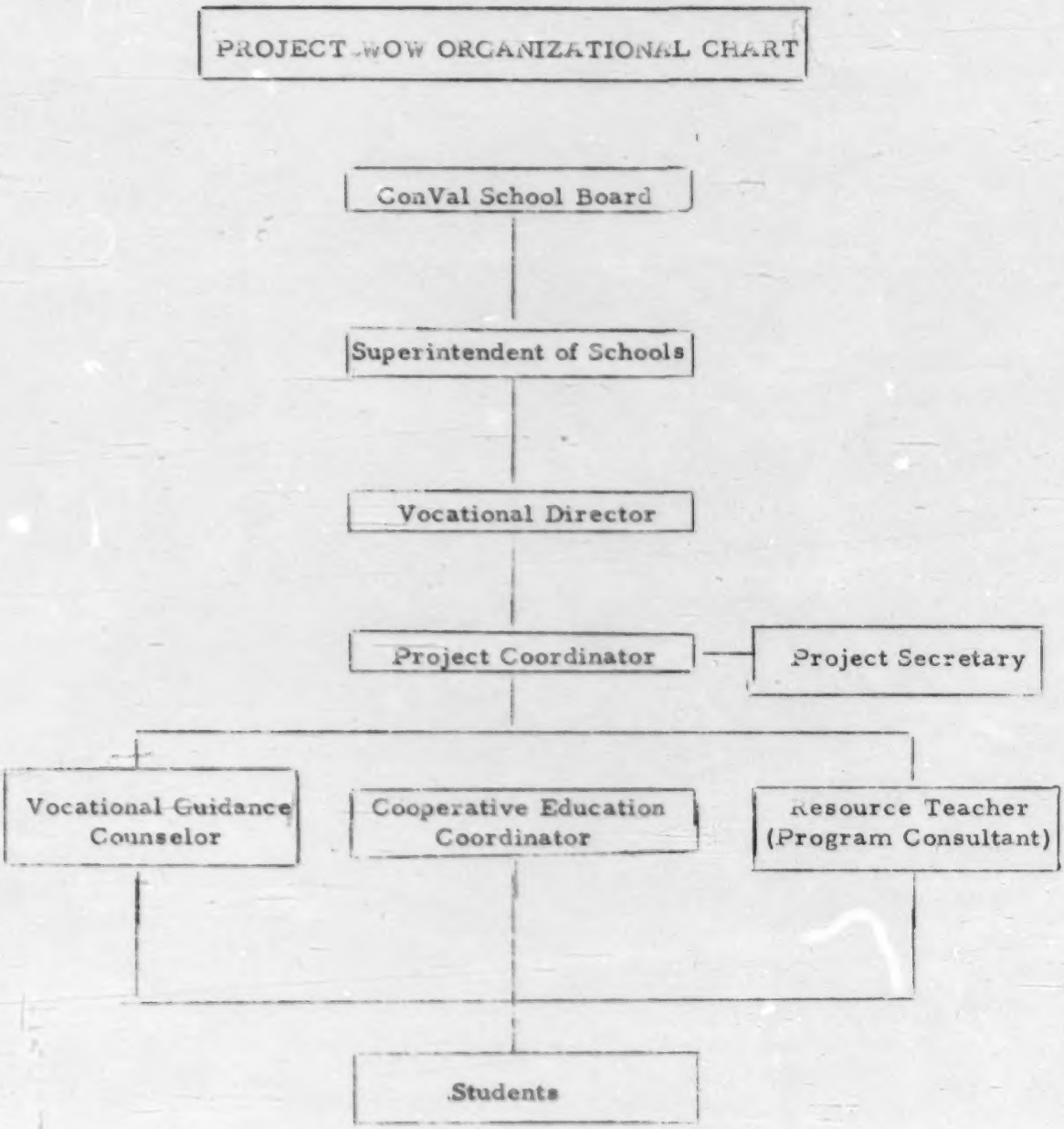
Notes: Setting and Participants -

The Contoocook Valley School District is composed of 9 towns in the Monadnock Region of New Hampshire. The district has 9 elementary schools (one in each town) two Middle Schools, and one comprehensive Regional High School. The ConVal Regional High School became operational in September of 1970 and the 3.6 million dollar plant houses the 9 - 12 student population of the district. There are 2,190 students in the school district served by 27 administrators, 144 teachers, and support personnel. It is within this framework that the project has functioned for the last three years.

1. Management

a. Organization - To implement the objectives outlined in the previous section (B), the project for the three years was organized in the following manner: (See next page).

b. Staff - Job Descriptions
Smooth and efficient implementation of the project's goals and objectives were severely hindered by the fact that since its beginning the project has had two directors, three project coordinators, two resource teachers, and two cooperative education supervisors. While the project personnel all felt a commitment to fulfillment of the basic objectives, each instituted his own process for reaching those objectives and consequently job descriptions were altered during the course of the three years consistent with each new approach. The following job descriptions represent the most thorough delineation of responsibilities in meeting the project objectives. It should be noted that other projects who may subsequently use this format should be aware of the need for both a program consultant to handle the development of materials and the coordination of program elements and a resource teacher to work in the field directly in the classroom with teachers.


PROJECT WOW ORGANIZATIONAL CHART
ConVal School Board
Superintendent of Schools
Vocational Director
Project Coordinator
Project Secretary
Vocational Guidance Counselor
Cooperative Education Coordinator
Resource Teacher (Program Consultant)
Students

JOB DESCRIPTIONS

The following job descriptions have been developed for Project World of Work personnel.

Project Director:

(NOTE: The Director of Project Workd of Work is also the director of the Vocational Education Program in the ConVal School District. He therefore, divides his time between the two positions and while he is ultimately responsible for key policy and administrative decisions in the project, it is not intended that he be "prime mover".)

The Project Director will:

1. Be ultimately responsible for all major administrative and program decisions made in the project.
2. Be responsible for orienting new staff members to their roles and functions in the project.
3. Meet regularly with staff personnel on the progress and projected activities of the administrative and program elements of the project.
4. Be the prime linkage between the Superintendent's Office and the project.
5. Maintain appropriate linkages with external organizations and agencies relating to the project.
6. Represent, along with the Project Coordinator, Project World of Work at meaningful local, state and federal meetings and conferences.
7. Integrate the activities of Project World of Work with those of the Vocational Program and other similar programs occuring in the district.

Project Coordinator:

The Project Coordinator will:

1. Conduct a file search and interview for the purpose of his own orientation and in preparing a status report of the project.
2. Redefine and integrate his roles and functions with the Director and the Program Consultant.
3. Review the existing budget and recommend budgetary revisions for the purpose of bringing the project budget in line with stated objectives.
4. Prepare maaningful management objectives and oversee the preparation of objectives in the other elements of the project.
5. Contract and external third part evaluator for the project and work cooperatively with him in preparing an appropriate evaluation design and procedures.

6. Develop an appropriate dissemination strategy that will insure that target audiences are brought through the awareness and interest stages in the change process by the conclusion of the project year.
7. Will meet regularly with the project staff and other key personnel in clearing the current status of the project and decision-making on proposed activities.
8. Meet all management requirements with regard to reporting of USOE.
9. Will re-organize the inventory procedures of the project and will conclude the year with appropriate data in this regard for termination.
10. Will represent the project along with the Project Director at meaningful local state and federal meetings.
11. Will be responsible for authorizing all purchase orders and will co-sign all contractural agreements.
12. Will assist the Program Consultant in coordination and logistical arrangements for proposed workshops.
13. Prepare end of the year status report with appropriate recommendations which will include those recommendations secured from other staff members.
14. Support teachers' needs for necessary materials in accomplishing activities of the project.

Program Consultant

The Program Consultant will:

1. Through a series of meetings with the Project Director and Coordinator and other key personnel, establish his roles and functions and integrate them smoothly with the roles and functions of the Project Director and Coordinator. These roles and functions will result in his being primarily responsible for the conduct of the program elements of the project.
2. With the help of the external evaluator, prepare meaningful program objectives for the project year.
3. Assess the current status of the Industriology Program and proceed to revise, upgrade and test out the Industriology Concept before the conclusion of the year.
4. Provide consultive assistance to all teachers requesting such services or who are directly involved with the implementation of the program.

5. Coordinate all aspects of the process of developing necessary materials for upgrading and implementing the Industriology Concept.
6. Coordinate the conduct of all student field trips and other learning activities eminating from the project.
7. Work cooperatively with the Project Coordinator in the conduct of workshops and other in-service activities.
8. Maintain appropriate documentation with regard to program elements.
9. Oversee the conduct of pilot activities and programs that demonstrate the Industriology Concept.
10. Work cooperatively with the Project Coordinator in budget revisions and share in the decision making of budgetary matters relating to the program.
11. Where time and finances allow, represent the project at meaninfgul local, state and federal meetings and conferences.
12. Oversee all video taping and photographic activities relating to the project.
13. Be responsible for overseeing the ordering of all necessary materials in support of program elements of the project.
14. Share responsibility with the Project Coordinator for orienting visitors to Project World of Work.

Cooperative Education Supervisor

The Cooperative Education Supervisor will:

1. Delineate, refine and integrate his functions and roles with those of other staff members.
2. Clearly define the rationale objectives, activities and strategy for both the work study program and the work experience program.
3. Organize and conduct the "commanalities" course.
4. Develop training profiles for students entering the work experience program.
5. Maintain appropriate data relating to his activities, work cooperatively with the Vocational Guidance Counselor with regard to student placement in the work study and work experience programs.
6. Create firm linkages with business and industry in the community for the purpose of upgrading and expanding the Cooperative Education Program.
7. Counsel independently with students with their regard to their personal goals and objectives in entering the World of Work.

Job Descriptions

8. Will work cooperatively with the Project Coordinator in revising the course "Life & Career Planning".
9. Will be responsible for data collection to be used in evaluating student progress within the work study and work experience programs.
10. Will develop a procedure for the enrolement of students in the cooperative education programs.
11. Will arrange for transportation of some students to their job sites.
12. Coordinate closely with other cooperative teachers with food services, health aservices, distributive and clerical services in an effort to integrate, coordinate the total program in this school.
13. Provide the Director of Vocational Education with those news items concerning the program which may be released to the news media in an effort to build good community relationships in a successful program.
14. Expedite and instigate cooperative efforts between businesses and industry in the community with those of the school.

Vocational Guidance Counselor

(NOTE: There will be an addenda to this section for inclusion at the time of the on-site visit by Unco, Inc.)

The Vocational Guidance Counselor will:

1. Provide individual counseling of all high school students involved in the program.
2. Develop methods and procedures for keeping accurate records of student performance.
3. Develop testing procedures, conduct such tests and prepare appropriate resulting data relating to students' vocational interest and ability.
4. Seek resource materials relating to career awareness and guidance and will organize such materials to be used as an on-going resource for students of information relating to careers.
5. Create linkages with external agencies (e.g. Project OIIP) that will expand student resources relating to occupations and careers.
6. Review and revise the goals and objectives aimed at the proper integration and coordination of the guidance program at ConVal High School.
7. Work cooperatively with other staff members in identifying and meeting the needs of students with special problems relating to

career choices and/or skills development.

8. Aid students in writing resumes for educational experience.
9. Seek to upgrade his own background and knowledge with regard to career education through participation in significant local, state and federal meetings.

Project Secretary/Office Manager

The Project Secretary/Office Manager will, under the direction of the Project Coordinator and the Program Consultant:

1. Fiscal
   Be responsible for internal projects and fiscal procedures (e.g. purchase orders, budget reconcillation, federal reporting, etc.).
2. Federal Reporting
   Be responsible for quarterly reports, internal reports and final reports; also quarterly requests for funds.
3. Clerical Responsibilities
   Typing, reproducing, coallating, and dissemination of all printed data, material, memos and letters, etc. eminating from the project office.
4. Management Functions
   Oversee all clerical work delegating to other individuals contracted by the project, maintain staff schedules and coordinating appointments and meetings, maintain office files and the responsibility for all supplies and materials needed for the operation of the World of Work office.
5. Staff Development
   Attends all staff meetings, and when time and funds allow, attends local and state meetings relating to career education. (NOTE: There are several other unmentioned tasks inherent in the above responsibilities.)

c. Budget/Fiscal Procedures - In the three operational years of the project, detailed budgets were constructed consistent with each new staffs approach to implementing the proposal objectives. Negctiating these budgets and securing the necessary local and federal clearances to proceed was time consuming and at points frustrating. While the concerns for fiscal accountability were certainly justified at both the local and federal level, the negotiating process did hinder the smooth and efficient flow of activities prescribed for implementation. In discussing the matter with other part D directors, this situation was not unusual. As described in the previous section onder staff where it was noted that the project experienced a heavy turnover in personnel it is important to note that each new "team" had to be oriented to the fiscal procedures within the district. Since district fiscal personnel also changed, it was difficult for all concerned parties to develop a smoothly operating fiscal procedure in each of the three years. These factors combined with the time lapses involved in getting clearances through USOE created some points of hesitation in the efficient evolution of the implementation process. Personnel at the USOE Office of Education were unusually sympathetic and helpful in resolving these issues and it would seem that the basis for these problems rested with the extremely high volume of documents flowing to USOE awaiting decision. It was also confusing to the project staff and the district fiscal agents that the amounts of money requested were often not consistent with the amounts of money received.

d. Dissemination - In accordance with suggestions made at the Squaw Valley Conference, National Institute on exemplary projects in vocational education held in 1970, dissemination activities in the first two years of the project were limited awaiting positive results. While dissemination activities did take place during the first and second years as will be shown in the next section, it was not until the third year that dissemination was considered a priority task. Among these activities were: orientation sessions for outside visitors, responses to requests for information, state and regional news articles, newsletters, and participation in state and national conferences.

e. Evaluation - As has already been pointed out in the abstract portion of the report the project has been highly conscious of its need for and commitment to appropriate evaluation. At various stages of the three years the project has been evaluated by state department personnel, two external evaluators, each of which performed both informative and summative evaluations, two USOE on-site teams, and extensive internal monitoring by the project staff and district administrative personnel. (See Section E - Evaluation)

2. Program Elements - Note: While Section D spells out some of the results and accomplishments relating to the management of the project, it will deal primarily with an expansion of the priority concern of the project - program. Therefore, the following data represents only an outline of those activities implemented in meeting the objectives.

a. Grades 1 through 6 - During the three operational years of the project elementary students were presented with opportunities and activities intended to help them acquire a positive attitude toward work, school and increased knowledge of themselves in relation to work. Tool racks were constructed in each of the 9 elementary schools, teachers were provided in-service training on the use of tool racks, video tape equipment was purchased and teachers were given training on appropriate use consistent with orienting students to world of work. In all three years a great number of field trips were conducted for the purpose of first hand exposure of students to a variety of career areas, and appropriate materials were purchased in support of in-class activities.

b. Grade 7 and 8 - It was at this level that a priority thrust in the project was pursued - industriology. The intent at this level was "exploration and self evaluation". In pursuing objectives relating to these grade levels, the project staff in each of the three years has addressed itself to developing materials appropriate for our use in implementing the industriology concept as described in the Abstract portion of this report. The "brown book" was developed and a first attempt in outlining appropriate approaches. (See Volume III) Considerable planning and development was accomplished in a coordinated effort

with industrial arts and vocational education teachers and work was begun on production of well constructed learning activity units. (See Volume II) In addition in-service training was conducted, students were given opportunities for on-site visits through field trips for the purpose of further exposing them to the world of work. The vocational guidance counselor conducted battery of tests as a first step in developing a coordinated program for guidance and counseling with regard to a student's occupational choices and their development of skills.

c. Grades 9 and 10 - At this level the emphasis was upon continued exploration and preparation for career decisions and and the offering of consistent skills training and knowledge to allow students to properly prepare for following through on their career choices. Again the use of video tapes was widely used, in-service training to teachers was conducted, field trips were offered and a coordinated curriculum developed. Student learning packets were developed (See Volume II). At this level as well as 11th and 12th grade level students were introduced to the world study and work experience program coordinated by the cooperative education supervisor. (See Section D) Also at the 9 - 12 level the vocational guidance counselor developed programs and materials relating to occupational information and continued his program of testing, guidance and counseling of students in meeting their needs with regard to preparation to enter the world of work.

d. Grades 11 and 12 - Emphasis at this level was for "job preparation and job entry". Priority emphasis at this level was given to developing and expanding the work experience - work study programs. The three years showed a dramatic increase in the number of participants and the cooperative effort between school and community has been expanded in this regard. Activity learning packets were developed not only in the traditional vocational courses but also in the academic areas. (See Volume II) The same supportive activities were present at the 11th and 12th grade levels as previously mentioned at the 9th and 10th grade levels but at a more sophisticated nature.

D. RESULTS AND ACCOMPLISHMENTS:

1. Management

a. Administration - The project experienced a stormy administrative history during its three years of operation. As indicated earlier in this report the project ended the third operational year with an entirely different staff than it began with. In spite of this unusual turnover in personnel, the project has been able to address the basic objectives successfully. Suitable budgets did get developed, internal fiscal procedures were worked out, and though each new "team" of project administrators used a different inventory system which created some confusion, the project ended the third year with appropriate documentation relating to the hard and soft ware materials purchased by the project. Throughout its three year history the project was well coordinated with other locally based projects and duplication of efforts was prevented. The administrative staff closely monitored the status of the project and collected relevant data for decision making in the development of management and program goals and objectives. Appropriate time and sequence charts were developed and also frequent alterations were necessary the project did proceed on a continuum of activities and events consistent with the process for plan change in meeting the program objectives.

b. Dissemination - During the course of the three years of operation the project welcomed approximately 100 scheduled visitors who came seeking information about the development of our project.Taken as a whole this group represented individuals from all walks of the education community and from as far away as California. These scheduled visitors were given a proper orientation to the Project World of Work, a tour of our facilities and time was arranged for an exchange of ideas consistent with the needs of the visitor. As indicated in the previous section it was the decision of the project, in accordance with suggestions made at the Squaw Valley Conference in 1970, not to consider dissemination a top priority in the first two years of operation. In spite of this general plan however, many news articles were written and appeared

in the newspapers of the Monadnock Region of New Hampshire. In all 15 major articles (excluding smaller relatively unimportant articles) were produced in the first two years of the project. Of these perhaps the most significant was an article appearing in the Christian Science Monitor which provided national exposure to the project. In the last year of the project at the request of the local newspaper our newsletters were completely reproduced and in total represented roughly 40 news items relating to the project. Since the onset of the project in 1970 the project has been flooded with inquiries from all over the country requesting information and relevant data on a variety of subjects. The amount of letters of inquiry quite obviously increased in response to an increase in dissemination activities. In the third year along the project responded to approximately 130 inquiries for information. During the life of the project there were no less than 15 formal presentations to major groups on the activities of world of work. Here again as the project moved toward increased stress on the need for dissemination more presentations were offered. The following represents examples of some groups requesting imput relating to the project: Keene State College, Keene, N.H.; Spring Conference on Career Development and Vocational Technical Education; Merrimack Valley Branch of the University of New Hampshire; Plymouth State College; and a variety of local groups. Beginning in December of 1971 a project world of work newsletter was developed. This newsletter grew in size, sophistication, and importance culminating in the third year with the development of three newsletters which were produced in quantities of 1,000 and widely disseminated locally, in the state and nationally. (See Volume III) In 1972 a well prepared project abstract was produced and subsequently shared with some 50 other educationally agencies interested in career education projects. It should also be noted that the participation in major meetings, conferences etc. by project staff as well as other local educators is considered by the project to be a viable dissemination activity in terms of the exposure the project gets. (Through a personal exchange of ideas with other educators.)

c. Evaluation - As mentioned in Section C Strategies/ Procedures - and their Management, evaluation was a prime concern of the project. For specific information see Section D - Evaluation. For other evaluation reports, instruments, etc. see Volume III.

d. Community Involvement - The project designed and carried out a variety of activities designed not only to meet specific objectives stated in the original proposal, but in recognition of the necessity for expanding the target group of the project to the community. Too often project such as world of work do not follow a planned strategy for change that makes a concerted effort in involving those people, agencies and organizations who ultimately carry the burden of decision making for basic changes and innovations in the educational offerings for young people. Project world of work aside from its dissemination activities made several viable linkages with the local community.

In 1971 the project supported and video taped a "hobby day" in Hancock and invited community participation at the elementary school. The tape was subsequently shown to School Board meetings and was very positively received as a fine example of school community cooperation. In 1972 the project actively supported the use of retired, semi-retired and working community volunteers who worked with our students one or more days per week. Also in that year many courses were developed. These are activities planned under the heading of "short term learning experiences". In 1972 three such activities were instituted: 1) a local print shop with four students being exposed to the printing trade, 2) a local auto service station - five students, 3) a local beautician - three girls. These programs should not be confused with a roughly 100 student positions now available through our formal cooperative education program (see #8 below). At the beginning of the third operational year the project staff began to address itself to the development of an extensive paper making unit. (See Volume II) In seeking out local resources the Monadnock Paper Company in Bennington, N.H. was so enthused with the work being done on this unit that it offered tours, information and considerable materials in the development of the program.

During the last year several students were sponsored by local and area businesses and industries to attend the Junior International Management Institute on the campus of the University of New Hampshire in Durham. As a result of this opportunity provided by local business and industry, one of our students was selected to subsequently speak at the Spring Meeting of the New Hampshire Vocational Association - a state wide meeting with the theme "Career Development and Vocational Education".

In May several area building contractors, electricians and plumbers were invited to "dinner and discussion" at ConVal. The purpose was to link up those involved in our vocational educational programs with local contractors and to discuss how our programs might be strengthened. Perhaps the most interesting and potentially significant success involving the community has been a series of meetings between ConVal School District representatives and representatives of New Hampshire Ball Bearings, Inc. - the area's largest industrial employer. It would appear that the way is now cleared for a rather extensive cooperative program between the two agencies. Beginning next fall ConVal students will be extensively involved in programs at NHBB. It is now planned that eventually a formal apprentice program will be developed.

e. Staff Development - The project during the course of the three years viewed the term "staff development" as meaning not only the development of the project staff in terms of better project management but also increasing the knowledge and awareness on the part of key local educators. In 1970 the project resource teacher completed a six week industriology workshop at Wisconsin State University. The project coordinator attended a one week workshop at Keene High School in Keene, New Hampshire and the project director and coordinator attended the AVA Convention in New Orleans. It was in 1972 that the project forsaw the need to leave the district upon termination with school principals and selected staff who would be "turned on" to occupational education. The major vehicle for achieving this awareness and interest was to trips by selected people to visit other successful career education programs and to participate

in state and national conferences. Two district principals traveled to Pawtucket, Rhode Island to see their very fine career education project. Also in 1972 the project staff attended the Region I Career Education Director's Meeting in Pawtucket, the NESDEC Conference in Nashua, the National Coordinating Conference on Career Education in Worrington, Virginia, the Region I Career Education Director's Meeting in Manchester, the Southern New Hampshire Staff Development Cooperative Conference on Career Education in Concord, New Hampshire, the U.S. Chamber of Commerce National Conference on Career Education in Washington, the Junior Industrial Management Institute in Durham.

In addition principals and key teachers were involved in the following ways: selected principals visited the Career Education Projects in Syracuse, New York, Pawtucket, Rhode Island and Rutland, Vermont. In addition other local educators were involved in the conference on career education held in Concord, New Hampshire, involvement as group leaders on industrial arts methods at Keene State College and as spokesman for the project at several local meetings.

2. Program - Industriology

a. Program Development - The development and importance of the industriology component of the project has already been outlined in previous sections. If it can be said that the project had a major thrust it would be the implementation and testing out of the industriology concept developed at the University of Wisconsin. It was intended to be the major delivery program in implementing the original objectives. Consequently the three years has been spent with considerable involvement and attention to revising and refining the industriology concept in the ConVal district. As early as December 1970 an extensive document entitled "the brown book" was developed. This book is an extensive outline of components of the industriology approach. In early 1971 elements of this approach were adapted at the Antrim Middle School and introduced at the then Peterborough Consolidated school. (See Volume II) It was never intended to be a thorough and completed document but rather was intended to be an outline from which

much more refined learning activity units would be developed. At the commencement of the third operational year, it was apparent that much hard work had gone into the design and planning phases but it was also clear that thorough practical activity learning units had not been adequately developed and in addition there were portions of the total industrial concept that had not yet even been addressed. Unfortunately, work that should have been completed from these units during the 70 - 72 and 72 - 73 summer sessions was not done. Therefore, the project entered the third year faced with a critical need to develop the design and outline to practical and useful learning units and to make an effort to test them out where possible. Since the preceeding summer had not been utilized in developing such units it was necessary during the third year to draw key industrial arts teachers out of their classrooms for work on developing these units and although approximately 25 full days were spent for this purpose the project staff still operated under considerable time pressure in completing the task. Although excellent units had been produced and while teachers who assisted in their development understand how to develop these units there is still much to be done.

b. Learning Packets - Excellent learning packets have been developed on Papermaking, Leathercraft, Home Economics, and work is in progress and will be continued after termination of Metals, Plastics, and Aerospace. It is important to note at this point that other significant learning activity units have been developed by teachers in the academic areas who are not formally bound to the project but who by their own choice and enthusiasm have chosen to approach their subjects with strong emphasis on career development. Such units have been developed in Oceanography, Business Math, and Business English among others.

c. Activities - In testing out this concept through the use of the developed units there were several student activities which merit mention. In testing out the Home Economics learning activity unit two competing companies were organized at the 8th grade level. Each "team" used the production of grinders as their product. Each "team" conducted elec tion campaigns and elected officers. Each

team sold stock in order to gain working capital. The capital was used to purchase necessary supplies and ingredients to produce the grinders. The student body of the Peterborough Middle School was polled to determine what kind of products the consumers preferred. An advertising campaign was then conducted, a production line set up and the grinders produced. Quality control was maintained and subsequently the grinders were sold. At the conclusion of the project and after reviewing their bookkeeping system the officers announced a 40¢ per share dividend to stockholders and stockholders were then paid.

As introduction to the aerospace unit approximately 100 students at the Peterborough Middle School were given one egg and one sheet of paper measuring 9 X 12" and without use of other materials were given the task of designing a vehicle that would transport the egg from a 10 foot step ladder to the ground without breaking. This activity served as an introduction to a unit on aerospace using the development of rockets as the vehicle. The conclusion of the unit culminated with these same students firing their rockets under careful supervision. To introduce the Paper Making unit an extensive and excellently conducted demonstration was given to students who would subsequently be involved in the paper making unit. The demonstration began with wood pulp and ended with an in-class production of bright pink sheets of 8 1/2 X 11" paper It was an excellent motivational exercise and lead into a meaningful unit on paper making. (It should be noted that paper making in New Hampshire is a major industry.)

3. Elementary Program - Consistem with the project's goals and objectives for elementary students 9 mobile tool units were constructed and stocked for each of the districts elementary schools. (In 1971.) During 1972 - 73 elementary students were given exposure to a variety of careers through numerous field trips. (See #4)

During 1972 a student aide program was instituted. This consisted of high school student aides working with teachers and students in the elementary grades. In most cases this aide program proved to be very helpful. Also in 1972 the students at Temple expressed their concern about the tool

rack that had been produced for them in 1971. They felt that it was poorly designed and didn't fully meet their needs. Consequently the students under the supervision of a teacher aide planned and constructed a new and better tool rack for their own school. While that student initiated project was going on a Temple Elementary School the students at Antrim in the 5th and 6th grade complex as a result of the orientation and skills training they had received in using the tool rack in their school began to design and construct their own cardboard furniture out of Tri-Wall. Over in Dublin Elementary School students in grades 5 and 6 became very interested in macrame, knotting, crocheting and knitting from one of the elementary teachers. Impetus for this interest came from the fact that the teacher had requested and received appropriate materials for developing manipulative skills from the project. In 1973 students in the second through the fifth grade in Hancock Elementary School became quite sophisticated in their wood working projects in producing chests, hot pads, bird feeders and doll house furniture. Here again motivation for these activities was produced through the presence of the tool rack that had been installed in 1971.

4. Field Trips - During the course of the three years, as has been suggested before, field trips played an extremely important role in the conduct of the program so far as giving students an on the sight opportunity to see a wide variety of careers and to meet and view the lifestyle of a wide variety of people. In 1970, the project began with field trips to local industries and businesses for junior high school and high school students. In 1971, this component of the program was expanded to send student groups at all levels on field trips relating to careers. In late 1971, along with the expanding occupational interest of students of students, it was necessary to provide trips to locations outside the immediate area. For example, in December of 1971, the eighth grade Home Economics class went to American Airlines in Boston to see how food is prepared for the airlines. During 1972, field trips were taken to; an automated bakery, a lumber mill, a lumber yard, a furniture manufacturing plant, a home construction and equipment show, a yarn mill, and a clothing manufacturer. Beginning the third operational year the field trip forms were revised (See Vol. 3) to further refine and insure that field trips being taken were truly consistant with class work either as an introductory activity or a culminating activity. Teachers were asked to spell out in detail the relationship between the field trips and there in class work relating to careers. It was found that rather than limiting teachers interest in field trips this added paper work and planning accelerated interest in such activities to the extent that by the conclusion of the third operational year,

forty trips had been conducted in the final year alone. They are to numerous to mention, but they include such places as Superior Court in Manchester, the Bennington Paper Mill, the U.S. Post Office in Keene, the Builders Home Show in Manchester, market, a local newspaper, etc., etc.

5. Inservice Training - The implimentation of objectives such as those stated in our original proposal requires a considerable amount of inservice training for teachers. Over the three year period many workshops were conducted. In 1970, there were workshops for Home Economics teachers in curriculum and program development as well as workshops for junior high Industrial Arts teachers on the use of metals and wood units. In 1971, there were workshops for Elementary School teachers on the use of tool racks as well as curriculum development as well as sharing the feedback on project progress. Also during that year, the project facilitated a two week workshop between the English Department and the Vocational Education faculty on developing behavioral objectives for a vocational English course. In 1972, there was a workshop for elementary teachers on "The Importance of Job Selection." Elementary and junior high teachers participated in the workshop on occupational information gathering. During the third operational year, a workshop was held for all interested teachers of the district on cardboard carpentry. Prior to this time, some small projects had been developed with great enthusiasm using cardboard to build furniture and other items but no sound workshop had been provided. This workshop gave teachers the skills and interest they needed and they proceeded with many activities using triwall. At the conclusion of the final year the project used the resources available within the district to conduct a weekly workshop in woodworking and development of projects that could be introduced to elementary and junior high students.

6. Video Taping - Considering video taping as a total activity this component was dissapointing. It was intended at the beginning of the project that a full thorough and complete library of meaningful and useful tapes on careers representing the job clusters would be produced. Responding to this plan, video tape equipment was leased and placed in each of the schools. Over the course of the three years while several very good tapes were produced they lack logical sequence and the final result is that there is no way that this effort that this effort could be defined as successful in developing the library mentioned above. The video tapes were used for a variety of purposes including field, trips, class activities, video taped lessons, etc.

Perhaps a prime reason why the project did not achieve anticipated levels of success is inherant in the fact that adequate and thorough planning for its use and appropriate control of equipment was not maintained. In addition, a reasonable program inservice training on the use of video tape equipment was not conducted. There was workshops intended for the purpose of helping teachers understand the use of video tape equipment. However, these isolated workshops were not part of total program for continued staff development and staff training in there use. In the final year of the project, a consultant was contracted to review all of the tapes produced. There was some sixty tapes. They are now properly cataloged and inventoried but in total, they constitute a rather disorientated and relatively useless conglomeration of "this and that".

7. Vocational Guidance - In 1970, the vocational guidance component was developed, a staff member hired, and a very fine program was implimented throughout the three years relating to vocational guidance. As early as 1970, an extensive testing program was instituted for students in grades seven through twelve. Among the tests administered, were the Iowa test of Educational Development, the Vocational Planning Inventory, and the Kuder Occupational Interest Survey, the Differential Apptitude Test, and the Ohio Vocational Interest Survey. The testing program has been well organized and has had a meaningful impact upon not only the planning of activities but in the personal lives of many of our students in entering the World of Work.
In addition, the vocational guidance counselor began in 1970 to develop a library of occupational information materials.
In developing this career information center the project provided not only financial backing but also media materials designed to present this information in an effective to students. He also provided tours of the Vocational facilities and visited several area High Schools explaining ConVal's programs to prospective students. It should be noted that the current Vocational Guidance Counselor, the career information center he has developed and, in general, the program he has initiated, will be continued after the termination of federal funds.

There have also been SPECIAL PROGRAMS. A line of communication has been set up between the project and the New Hampshire Occupational Improvement Information Program. That program is a federally funded title three project designed to increase the effectiveness of the classroom teacher in dispersing career information.

At the beginning of the project a group of students from Crotched Mountain Rehabilitation Center were using the Industrial Arts facilities at ConVal. In return some of the ConVal students were involved in some testing programs at Crotched Mountain in a cooperative effort to aid disadvantaged and handicapped children.

The Vocational Guidance Counselor was instrumental in developing six special programs for students with special needs. For example, there is a course of study in beginning typing for a student unable to attend school for rheumatoid arthritis. Another example is the use of locally run sheltered workshop for an accidentally minimally qualified student. Lastly, students from the district middle schools are given a tour and orientation to the facilities and programs of ConVal High School by the Vocational Guidance Counselor so that these students will be better able to select their programs of study at the High School level.

Cooperative Education Program - During the first operational year of the project a Cooperative Education Coordinator (Supervisor) was hired. His basic functions were to develop and institute a work/study program, a work experience program, and a course for all participating students called "Commonalities." Briefly, the work/study program is essentially a "job placement bureau" for students, where students enter the world of work in the community on a release program and are paid for their participation in on-the-job training. This linkage of students to a job is not done indiscriminantly. The CO-OP Supervisor meets with and comes to agreement with local employers interested in assisting the school in this program. The work experience program is more sophisticated. The job secured for the student by the Supervisor is worked out through a specific contract and training profile that offers the student not only employment, but also links the job with his regular course of study at the school. Local employers help in planning, conduct and evaluation of student progress and the student not only receives pay but credit for his work.

As early as the first year of the project the work/study program was a success. Agreements were reached between the school and local hospital, nursing homes, and restaurants for providing students with training in the Health Occupations and Food Services. Contact was made with three major industries on methods on improving occupational information and services; and to allow video taping of occupations

In 1971 (Still in a pilot phase), nine students left the school early each day to participate in the work/study program. These students worked at restaurants, drug stores, town maintanance, auto parts stores, construction, and a mail order house. During the same year a total of seven students were involved with the work experience program working an average of fifteen hours a week in such diversified occupations as farming, auto mechanics, town maintanance, woodworking and home restoration.

At the commencement of this second school year of the project, there were immediately ten senior students in the work experience program and five students in the work/study program. From that

point on to the end of the project the program expanded at a rapid rate and a termination of the project over one hundred are now involved in either the work/study program or the work experience program. Training profiles have been developed at a rapid rate and there is general acceptance in the community of this element of the project.

The "Commonalities" course is a course that brings together students involved in the work/study, work experience, food services, and health occupations programs and offers them input relating to information, advice, help and input on a variety of subjects common to all individuals in the world of work. The project began with twenty seven students and ended with over sixty students involved in this acredited course. It should be noted that the Cooperative Education Supervisor, his materials and programs will be continued at local district funding after termination of federal funds.

E. RECOMMENDATIONS AND CONCLUSIONS:

NOTE: This section deals with recommendations relating to the World of Work Project at CONVAL. For recommedations relating to other locations in the first stages of a career education project - See Section D, Part I - Abstract.

1. Industriology Program -

The Middle School Principals of the district and the Industrial Arts staffs of the district should meet with the Vocational Education Director to plan a series of and sequence of Industriology Activities.

Subsequent summers should be utilized in continued curriculum development and program planning. Specifically, there should be at least a one week, well planned workshop for which activities and tasks have been defined. Areas of concern should be: 1) The operation of a student company, 2) Familiarization with the "Action Company Guide", 3) Continued development of the areas of metals, plastics, graphics, and home maintanance.

Recommendations should be made to the Industrial Arts staff on courses of study or areas that would assist them in the classroom. Assistance in a plan of continued study would be beneficial.

During the school year, frequent meetings by appropriate people should be held on continued surveillance and development of the Industriology concept.

To facilitate reordering os supplies, an accurate "consumable supply list" should be developed by the Industriology staff.

The I.A. staff should be encouraged to visit other successful I.A. programs in the area.

A series of inservice programs should be conducted for the I.A. staff and in some cases by them, on areas of study such as plastics, hot metals, crafts, etc.

All equipment orders should be channeled through the Vocational Directors office for centralized inventory and as a "clearing house" to avoid duplication.

Responsibility for inventory and maintenance of the elementary tool cabinets should be in the hands of the elementary Principal of each school. Inventories of tool cabinets should be submitted to the Vocational Director to facilitate coordination and to reduce duplication of effort.

The High School Vocational Department should offer inservice workshops for elementary teachers on the use of tools, materials and ordering techniques.

Elementary Teachers and Principals should meet during the year to exchange ideas on inventory, care and use of the mobil tool cabinets and for the purpose of sharing and feedback on the total program.

2. Budget Considerations -

In planning the FY '74-75 budget, input, suggestions and recommendations should be sought from those involved with continuation of the thrusts generated by the project. For example, maintenance of the tool racks in the elementary schools, materials in support of the career information center, field trips, faculty and staff visitation funds, monies to support the development of learning packets, etc. should become a primary consideration.

3. Advisory Committee -

An Advisory Committee should be developed in the fall of 1973 made up of a representative group of key personnel from the district and under the direct supervision of the Superintendent of Schools for the purpose of maintenance, planning, and continued implimentation of project elements.

4. Staff Development -

Since so much time, money and effort have been expended in the development of this program, it is recommended that the district Staff Development Committee survey this final report and receive the necessary input to fully understand those priority elements that the district is attempting to continue and that the committee consider this in making their decision relating to funding requests.

5. I.M.C. -

It is recommended that the coordinator of the I.M.C. should have an opportunity to survey this final report and consider it appropriate input in organizing equipment and materials in such a way that they will be most effectively used in support of continuation thrusts suggested in the report. Further, close coordination with the Vocational Guidance Counselor should be maintained to insure that those things the project has started maintain there identity and continue to be used for the purpose for which they were initially purchased.

6. Inservice Training -

The committee mentioned in (3) above should see that appropriate inservice training is planned and expedited to maintain and expand current levels of awareness and interest on the part of faculty and administrators in the district. Many of the people currently within the district are capable and should be called upon to act as coordinators and presenters of such inservice training. (See No. 1 above.)

7. School Community Relations -

The Vocational Director should oversee continuation of the school/community cooperative program with New Hampshire Ball Bearings, Inc. supported by the project in its final year. Once operational and tested, other similar cooperative efforts should be considered.

8. Commonalities -

It is recommended that the revisions commenced in FY-'72-73 of the "Commonalities" course should be followed through and the Cooperative Education Supervisor in cooperation with the Vocational Guidance Counselor, the Principal and two or three other key individuals should finish the revision and oversee its implementation. Whether or not the Cooperative Education Supervisor is the most appropriate staff member to teach this course should be reviewed.

9. Transportation -

Whether or not the Cooperative Education Supervisor should also bear the responsibility for transporting students to and from their job sites should be reviewed to determine whether or not it is the best utilization of his time.